TECHNICAL REVIEW AND EVALUATION
OF APPLICATION FOR
AIR QUALITY PERMIT NO. 1000734

1. INTRODUCTION

Copper State Recycling, Inc., operates the Copper Mountain Landfill (CML), an active solid waste landfill that accepts municipal solid waste, including residual and commercial waste, auto shredder fluff, dried waste water treatment plant sludge and non-hazardous petroleum contaminated soils. Asbestos containing material (ACM) is also accepted at CML where it will be deposited in a dedicated cell. The primary activity of CML is the transportation and deposition of refuse along with the excavation and stockpiling of cover material and soil.

The natural decomposition of the waste materials, and to some extent the evaporation of volatile compounds in the waste materials, constitute the primary sources of emissions. The landfill gas (LFG) that is emitted from the landfill is fundamentally 50 percent methane (CH4) and 50 percent carbon dioxide (CO2), with a fraction containing non-methane organic compounds (NMOCs), hazardous air pollutants (HAPs), and volatile organic compounds (VOCs). Particulate emissions due to traffic on unpaved roads, application of a cover layer of soil, soil stockpiling, cover layer distribution, and wind erosion make up a significant amount PM10 pollution.

Leachate is collected from the cell that is receiving refuse and is transmitted to an on-site evaporation pond. Leachate is generated by precipitation or other moisture which permeates through the waste material in place and is contained by a subsurface leachate collection and recovery system. The leachate is collected using two electric pumps and is eventually directed to an evaporation pond.

a. Company Information

Facility Name:	Copper State Recycling, Inc.
Mailing Address:	350 West 16th Street, Suite 332
Facility Address:	Avenue 35E & County 12th Street, Wellton, Yuma County, AZ 85356

b. Attainment Classification

Copper Mountain Landfill is in an Attainment Area with respect to all the criteria pollutants.

2. PROCESS DESCRIPTION

Copper Mountain Landfill (CMF) is an active solid waste landfill (SIC 4953) which accepts municipal solid waste, including residential and commercial wastes. Refuse is trucked in and dumped at a designated location. Current practice is to spread the waste in layers, compacting and covering it with soil. The compacted layers compose the landfill building blocks called cells. The buried waste decomposes biologically and chemically to produce solid, liquid, and gaseous products. Over the course of time the gaseous product which consist of methane, carbon dioxide, non-methane organic compounds, and volatile organic compounds, seeps through the landfill waste and permeates to the surface. This results in landfill gases that are regulated and controlled depending on the age, amount of refuse accepted, and design capacity of the landfill. Currently CML is below the allowable emission rate for non-methane organic compounds therefore CML is not subject to control requirement specified in the New Source Performance Standards (NSPS). Copper Mountain Landfill also accepts asbestos containing material which is deposited to a separate dedicated cell.

The liquid product that is produced in the landfill is mainly rain runoff that soaks through the landfill and escapes through the outer limits of the landfill. To prevent this from happening a liner and a leachate collection system was installed. The leachate collection system collects the rain runoff, or leachate, and pumps the leachate to a leachate pond. This pond emits an insignificant amount of VOCs and HAPs. The constant transport of waste to and from specific cells along with the compacting and burial of the waste, generates a significant amount of dust and particle matter that is dispersed in the air. Wind erosion of the soil cover and other areas locate on the landfill adds to the dust problem also.

3. EMISSIONS

Representative emissions from CML are presented in the following table. These emissions calculations are **not** meant to establish any baseline emissions levels. These emissions figures are **not** meant to be emissions limitations of any form. Table I summarizes the actual emissions potential to emit (PTE). The emission factors used to calculate the potential to emit are from AP-42 (1/95 ed. & 9/98 ed.)

TABLE I : Summary of Emissions Information

SOURCES : Landfill		
Source	*Pollutant*	*PTE (tpy)*
Landfill Gases	VOCs	23.15
	HAPs	2.93
	NMOCs	14.15
SOURCES : Construction Vehicles on Haul Roads and Landfill Surface		
Source	*Pollutant*	*PTE (tpy)*
Compactors	PM10	19.57
Dozers	PM10	30.72
Scraper	PM10	5.45
Loader	PM10	3.72
Motor Grader	PM10	1.57
Site Roll	PM10	1.24
Site Truck	PM10	3.49
SOURCES :Unpaved Roads		
Source	*Pollutant*	*PTE (tpy)*
Transfer Trucks	PM10	1.65
End Dump	PM10	20.26
Flatbeds	PM10	.77
Enclosed Vans	PM10	1.59
Roll Off	PM10	4.36
Front Loader	PM10	.49
Side Loader	PM10	.49
Transfer Trailer	PM10	.59
Pick-up Truck	PM10	2.91

Source	*Pollutant*	*PTE (tpy)*
SOURCES :Stockpile/Surface		
Loadout of Cover onto Landfill Surface	PM10	.016
Wind Erosion of Landfill Cover Storage Pile	PM10	.239
SOURCES : Generators		
Light Plant Engine	VOCs	.167
	NOx	2.072
	SOx	.137
	CO	.446
	PM10	.147
	HAPs	.00298
Leachate Pump (8000 Watt generator)	VOCs	.037
	NOx	.464
	SOx	.031
	CO	.1
	PM10	.033
	HAPs	.0006678
Pressure Spray Engine	VOCs	.002
	NOx	.022
	SOx	.001
	CO	.005
	PM10	.002
	HAPs	.0000313
Transfer Trailer Tipper Engine	VOCs	.538
	NOx	6.674
	SOx	.441

Source	*Pollutant*	*PTE (tpy)*
	CO	1.438
	PM10	.474
	HAPs	.0096
SOURCES : Leachate Collection System		
Source	*Pollutant*	*PTE (tpy)*
Leachate Collection System	VOCs	.491
	HAPs	.00541

4. APPLICABLE REGULATIONS VERIFICATION

The Permittee has identified the applicable regulations that apply to each unit in the permit application. Table II summarizes the findings of the Department with respect to applicability or non-applicability of applicable regulations that apply to each unit.

TABLE II : Applicable regulations verification

UNIT	DATE	CONTROLS	REGULATIONS	VERIFICATION
Landfill	NA	None	40 CFR §60, Subpart A	General Provisions
			40 CFR §60, Subpart WWW	Standards of Performance for Municipal Solid Waste Landfills
			40 CFR §82, Subpart F	Recycling and Emissions Reduction; regulations pertaining to use and handling of ozone-depleting substances
			40 CFR §61, Subpart M	National Emission Standard for Asbestos
			40 CFR §61.154	Standard for active waste disposal sites

Truck Loading/Unloading, Haul Roads, Storage Piles	NA	Watering, etc.	R18-2-604 R18-2-605 R18-2-606 R18-2-607 R18-2-610	Open Areas, Dry Washes or Riverbeds, Roadways and Streets, Material Handling Storage Piles Evaluation of Nonpoint Source Emissions
Mobile Sources	NA	NA	AAC R18-2-801 AAC R18-2-802 AAC R18-2-804.A	These rules are applicable to mobile sources
Misc. Generators	Misc.	NA	A.A.C. R18-2-719.A A.A.C. R18-2-719.B A.A.C. R18-2-719.C.1 A.A.C. R18-2-719.E A.A.C. R18-2-719.F A.A.C. R18-2-719.H A.A.C. R18-2-719.I A.A.C. R18-2-719.J A.A.C. R18-2-719.K	AAC R18-2-719 is applicable to all stationary rotating machinery

V. PERIODIC MONITORING

Landfill Gas

The monitoring requirements for the landfill gas coming out of the landfill are implemented when the Non-Methane Organic Compound mass emission rate of the landfill exceeds 50 Mg/yr.

If the Permittee decides to install, maintain, and operate an **active collection system**, then the Permittee will be required to monitor;

1. The gauge pressure in the gas collection header on a monthly basis;

2. The Nitrogen or oxygen concentration in the landfill gas on a monthly basis; and

3. The temperature of the landfill gas on a monthly basis.

If the Permittee decides to install, maintain, and operate an **enclosed combustor**, then the Permittee will be required to monitor the temperature of the enclosed combustor and the flow

to or bypass of the enclosed combustor.

The temperature monitoring device requires:

- a continuous recorder that has a minimum accuracy of ±1 percent of the temperature being measured expressed in degrees Celsius or ±0.5 EC, whichever is greater.
  (A temperature monitoring device is not required for boilers or process heaters with design heat input capacity greater than 44 megawatts.)

The device that records flow to or bypass of the enclosed combustor shall either;

- record the flow to the control device every 15 minutes; or

- have the bypass line valve secured in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

If the Permittee decides to install, maintain, and operate an **open flare**, then the Permittee will be required to monitor the temperature of the open flare and the flow to or bypass of the open flare.

The open flare requires a heat sensing device, such as an ultraviolet beam sensor or thermocouple, at the pilot light or at the flame itself to indicate the continuous presence of a flame.

The device that records flow to or bypass of the flare shall either,

- record the flow to the control device at least every 15 minutes; or

- have the bypass line valve secured in the closed position with a car-seal or a lock-and-key type configuration. A visual inspection of the seal or closure mechanism shall be performed at least once every month to ensure that the valve is maintained in the closed position and that the gas flow is not diverted through the bypass line.

The Permittee will be required to monitor **surface concentrations of methane** according to the instrument specifications. Any closed landfill that has no monitored exceedances of the operational standard in three consecutive quarterly monitoring periods may skip to annual monitoring. Any methane reading of 500 ppm or more above background detected during the annual monitoring returns the frequency for that landfill to quarterly monitoring.

If the Permittee uses a device other than an open flare or an enclosed combustor, then the

Permittee shall provide information satisfactory to the Director describing the operation of the control device, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Director shall review the information and either approve it, or request that additional information be submitted. The Director may specify additional appropriate monitoring procedures.

If the Permittee seeks to install a collection system that does not meet the specifications for an active collection system or seeks to monitor alternative parameters, then the Permittee shall provide information satisfactory to the Director describing the design and operation of the collection system, the operating parameters that would indicate proper performance, and appropriate monitoring procedures. The Director may specify additional appropriate monitoring procedures.

Asbestos

The Permittee shall monitor the waste that is being accepted for all asbestos-containing waste material. They must also maintain shipment records of all asbestos containing materials that enter the landfill.

Ozone Depleting Materials

The Permittee shall monitor the amount of Ozone depleting material that enters the landfill area and dispose of it in the proper manner specified in Attachment B of the permit.

Non-point Sources

Non-point Sources include loading/unloading, storage, and haul road traffic activities. Typical controls for these sources of fugitive emissions are wetting material and paving/wetting roads respectively. The applicable requirement for these activities is A.A.C.R18-2-610. This regulation prescribes a 40% opacity limit on visible emissions from non-point source activity. Each of the activities mentioned above is performed continuously, and results in large emissions of particulate matter. The monitoring plan requires the Permittee to conduct a visual survey of visible emissions from non-point sources biweekly. The visual survey should be performed in accordance with a pre-approved visual observation plan. The visual observation plan should identify a central point, or multiple points from which observations will be taken. The Permittee is required to keep records of the date and results of each survey. Any observed excess emission event will be reported immediately to the Director in accordance with the excess emissions provisions listed in Section XI, Attachment A. Also the Permittee shall ensure that the water trucks are operated daily to control fugitive emissions from haul roads. If the water trucks are not used on a particular day, the Permittee is required to make a record of the date, along with the reason for not using the water trucks.

VI. TESTING REQUIREMENTS

Control Efficiency of Collection System

Testing is required to establish the control efficiency of the collection system. The reduction efficiency or ppmv shall be established by an initial performance test required under 40 CFR §60.8. Method 25C or Method 18 specified in appendix A of the 40 CFR §60 or alternative method approved by the Director shall be used to determine compliance with the 98 weight-percent efficiency or the 20 ppmv outlet concentration level. If using Method 18 of appendix A in the 40 CFR §60, the minimum list of compounds to be tested shall be those published in the most recent Compilation of Air Pollutant Emission Factors (AP-42).

The collection system must be operated so that the methane concentration is less than 500 ppm above the background at the surface of the landfill. To determine if this level is exceeded, the Permittee shall conduct surface testing around the perimeter of the collection area along a pattern that traverses the landfill at thirty meter intervals and where visual observations indicate elevated concentrations of landfill gas, such as distressed vegetation and cracks or seeps in the cover. The Permittee may establish an alternative traversing pattern that ensures equivalent coverage. Areas with steep slopes or other dangerous areas may be excluded from the surface testing.

Removal of the Collection System

After the installation of a collection and control system, the Permittee shall calculate the NMOC emissions rate for the purposes of determining when the system can be removed. The calculated NMOC gas produced by the landfill shall be less than 50 Mg/yr on three successive test dates. The test dates shall be no less than 90 days apart, and no more than 180 days apart. The flow rate of the landfill gas and average NMOC concentration shall be tested on each of the test dates in order to calculate the NMOC mass emission rate.

VII. INSIGNIFICANT ACTIVITIES

Three diesel powered, 11.9 brake-horsepower, light plant engines used to illuminate the facility.
4.5 brake-horsepower gasoline-powered pressure sprayer
16 brake-horsepower gasoline-powered generator used to power the leachate pump and welder.
115 brake horsepower, diesel powered tipper engine used for the removal of waste from transfer trailers
Leachate evaporation pond